

John T. Moore

Docket No.: M4065.0920/P920
(PATENT)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of:
John T. Moore et al.

Application No.: 10/725,557

Confirmation No.: 4028

Filed: December 3, 2003

Art Unit: 2818

For: MEMORY ARCHITECTURE AND
METHOD OF MANUFACTURE AND
OPERATION

Examiner: Not Yet Assigned

INFORMATION DISCLOSURE STATEMENT (IDS)

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

Pursuant to 37 C.F.R. § 1.56, the attention of the Patent and Trademark Office is hereby directed to the documents listed on the attached PTO/SB/08. It is respectfully requested that the subject matter of the documents be expressly considered during the prosecution of this application and that the documents be made of record therein and appear among the "References Cited" on any patent to issue from this application. A copy of each document is attached.

This Information Disclosure Statement is filed before the mailing date of a first Office Action on the merits as far as is known to the undersigned.

A brief explanation of relevance of the non-(U.S.)-patent documents listed on form PTO/SB/08 is provided and attached hereto as Appendix A. The brief explanation provided for each document is not tantamount to an admission that a document is "material" or that it qualifies as prior art. The Examiner is respectfully requested to utilize

Appendix A only as a tool by which to better categorize the documents for substantive use in examining the claims of the application.

Documents discussed in Appendix A marked with an asterisk (*) are indicated to be potentially more relevant than others. Such marking is provided only to assist the Examiner; however, the Examiner is requested to thoroughly review all documents cited herein.

In accordance with 37 C.F.R. § 1.97(g), the filing of this Information Disclosure Statement shall not be construed to mean that a search has been made or that no other material information as defined in 37 C.F.R. § 1.56(a) exists. It is submitted that the Information Disclosure Statement is in compliance with 37 C.F.R. § 1.98 and the Examiner is respectfully requested to consider and cite the listed documents.

The Commissioner is hereby authorized to charge any deficiency in the fees filed, asserted to be filed or which should have been filed herewith (or with any paper hereafter filed in this application by this firm) to our Deposit Account No. 04-1073, under Order No. M4065.0920/P920. A duplicate copy of this paper is enclosed.

Dated: October ¹⁸~~15~~, 2004

Respectfully submitted

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APPENDIX A

*Kozicki and Mitkova, Proceedings of the XIX International Congress on Glass, Society for Glass Technology (2001): this publication generally relates to, inter alia, the physical effects of introduction of Ag into chalcogenide glasses, where introduction is by photodiffusion.

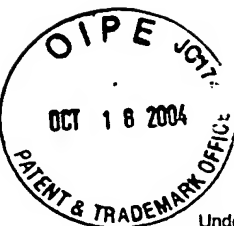
*Michael N. Kozicki, Programmable Metallization Cell Technology Description, February 18, 2000: this publication generally relates to, inter alia, programmable metallization cells (PMC) for storing memory as resistive states. The PMC cells use a chalcogenide glass region bounded by electrodes as a memory device. The chalcogenide glass can be germanium selenide. The electrodes can be an oxidizable and indifferent material. Multiple-bit cells are disclosed; relying on controlling an amount of electrodeposit. Barrier layers of metal oxides, isolation diodes, and access transistors are also disclosed.

*Michael N. Kozicki, Axon Technologies Corp. and Arizona State University, Presentation to Micron Technology, Inc., April 6, 2000: this publication generally relates to, inter alia, programmable metallization cells (PMC) for storing memory as resistive states and operating parameters for PMC devices.

*Kozicki et al., Proceedings of the 1999 Symposium on Solid State Ionic Devices (1999): this publication generally relates to, inter alia, physical and electrical characteristics of metal doped chalcogenide films (photodoped $\text{Ag}_4\text{As}_2\text{S}_3$) between electrodes, useful in memories, configurable connections, and self-repairing interconnections.

*Kozicki et al., Superlattices and Microstructures, 27 (2000): this publication generally relates to, inter alia, solid solutions of metals (e.g., silver) in arsenic trisulfide and their physical and electrical characteristics.

*Kozicki et al., Microelectronic Engineering, vol. 63/1-3 (2002): this publication generally relates to, inter alia, the photodiffusion of Ag into germanium selenide glass films, the amount of Ag that can be incorporated in to such a film by photodiffusion, and the characteristics of the resulting doped films.



PTO/SB/08A (10-01)

Approved for use through 10/31/2002. OMB 0651-0031

U. S. Patent and Trademark Office: U. S. DEPARTMENT OF COMMERCE

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Substitute for form 1449A/PTO INFORMATION DISCLOSURE STATEMENT BY APPLICANT (use as many sheets as necessary)				Complete if Known	
				Application Number	10/725,557
				Filing Date	December 3, 2003
				First Named Inventor	John T. Moore
				Art Unit	2818
				Examiner Name	Not Yet Assigned
Sheet	1	of	2	Attorney Docket Number	M4065.0920/P920

U.S. PATENT DOCUMENTS					
Examiner Initials*	Cite No. ¹	Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number-Kind Code ² (if known)			
	AA	2002/0000666	1/3/2002	Kozicki et al.	
	AB	2002/0168820	11/2002	Kozicki	
	AC	2002/0168852	11/2002	Kozicki	
	AD	2002/0190350	12/19/2002	Kozicki et al.	
	AE	2003/0035314	02/20/2003	Kozicki	
	AF	2003/0035315	02/20/2003	Kozicki	
	AG	2003/0048519	03/13/2003	Kozicki	
	AH	2003/0107105	6/2003	Kozicki	
	AI	2003/0137869	07/24/2003	Kozicki	
	AJ	2003/0156447	08/21/2003	Kozicki	
	AK	2003/0209728	11/13/2003	Kozicki et al	
	AL	2003/0209971	11/13/2003	Kozicki et al	
	AM	2003/0210564	11/13/2003	Kozicki et al	
	AN	5,314,772	5/24/1994	Kozicki	
	AO	5,500,532	3/19/1996	Kozicki et al.	
	AP	5,761,115	6/1998	Kozicki et al.	
	AQ	5,896,312	4/20/1999	Kozicki et al.	
	AR	5,914,893	6/22/1999	Kozicki et al.	
	AS	6,084,796	7/4/2000	Kozicki et al.	
	AT	6,388,324	5/14/2002	Kozicki et al.	
	AU	6,418,049	7/9/2002	Kozicki et al.	
	AV	6,469,364	10/2002	Kozicki	
	AW	6,487,106	11/26/2002	Kozicki	

FOREIGN PATENT DOCUMENTS						
Examiner Initials*	Cite No. ¹	Foreign Patent Document	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T ⁶
		Country Code ³ -Number ⁴ -Kind Code ⁵ (if known)				
	BA	WO 97/48032	12/18/1997	Kozicki et al.		
	BB	WO 99/28914	06/10/1999	Kozicki et al.		
	BC	WO 00/48196	08/17/2000	Kozicki et al.		
	BD	WO 02/21542	03/14/2002	Kozicki et al.		

Examiner Signature	Date Considered
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*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant

¹ Applicant's unique citation designation number (optional). ² See attached Kinds Codes of USPTO Patent Documents at www.uspto.gov or MPEP 901.04. ³ Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the application number of the patent document. ⁵ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. ⁶ Applicant is to place a check mark here if English language Translation is attached.



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<div>Substitute for form 1449B/PTO</div> <div style="font-size: 1.2em; font-weight: bold; margin: 10px 0;">INFORMATION DISCLOSURE STATEMENT BY APPLICANT</div> <div>(use as many sheets as necessary)</div>				Complete if Known	
				Application Number	10/725,557
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				Examiner Name	Not Yet Assigned
Sheet	2		2	Attorney Docket Number	M4065.0920/P920

OTHER PRIOR ART – NON PATENT LITERATURE DOCUMENTS			
Examiner Initials ²	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ²
	CA	Kozicki et al., Silver incorporation in thin films of selenium rich Ge-Se glasses, International Congress on Glass, Volume 2, Extended Abstracts, July 2001, pgs. 8-9.	
	CB	Michael N. Kozicki, 1. Programmable Metallization Cell Technology Description, February 18, 2000	
	CC	Michael N. Kozicki, Axon Technologies Corp. and Arizona State University, Presentation to Micron Technology, Inc., April 6, 2000	
	CD	Kozicki et al., Applications of Programmable Resistance Changes In Metal-Doped Chalcogenides, Electrochemical Society Proceedings, Volume 99-13, 1999, pgs. 298-309.	
	CE	Kozicki et al., Nanoscale effects in devices based on chalcogenide solid solutions, Superlattices and Microstructures, Vol. 27, No. 516, 2000, pgs. 485-488.	
	CF	Kozicki et al., Nanoscale phase separation in Ag-Ge-Se glasses, Microelectronic Engineering 63 (2002) pgs 155-159.	
	CG	Mitkova, M.; Boolchand, P., Microscopic origin of the glass forming tendency in chalcogenides and constraint theory, J. Non-Cryst. Solids 240 (1998) 1-21.	
	CH	Mitkova, M.; Kozicki, M.N., Silver incorporation in Ge-Se glasses used in programmable metallization cell devices, J. Non-Cryst. Solids 299-302 (2002) 1023-1027.	
	CI	Mitkova, M.; Wang, Y.; Boolchand, P., Dual chemical role of Ag as an additive in chalcogenide glasses, Phys. Rev. Lett. 83 (1999) 3848-3851.	
	CJ	West, W.C.; Sieradzki, K.; Kardynal, B.; Kozicki, M.N., Equivalent circuit modeling of the Ag As _{0.24} S _{0.36} Ag _{0.40} Ag System prepared by photodissolution of Ag, J. Electrochem. Soc. 145 (1998) 2971-2974	

Examiner Signature		Date Considered	
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¹EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

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